

# Deep History

The History and Prehistory of Water in  
the Las Vegas Valley

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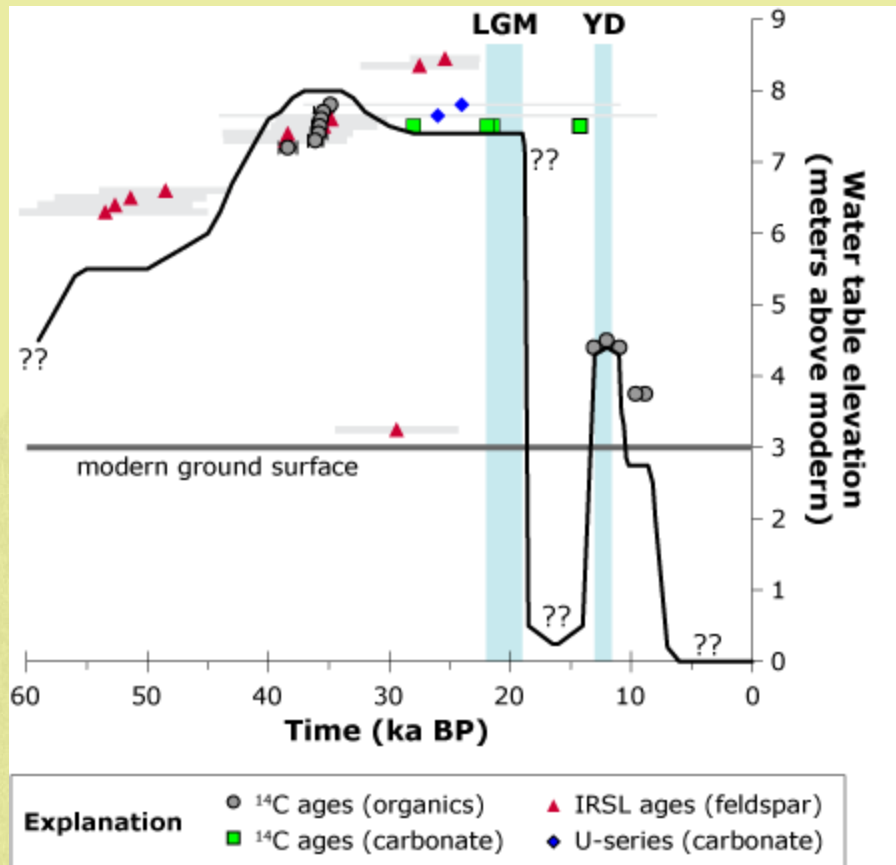
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# Deep History

- **Southern Nevada has a deep history that has been influenced by water and climate**
  - **Paleontological and paleoclimatic evidence**
  - **Archaeological evidence for water use and procurement**
  - **Historic evidence of water use and procurement**

# Climate History and Water

Water table level for Valley Wells, California



- Last Glacial Maximum  
- 26 – 19K YA
- Younger Dryas  
- 12.8 – 11.5 KYA
- Medieval Climatic Anomaly  
- AD 950 – 1250
- Historic Droughts

[http://esp.cr.usgs.gov/projects/paleo\\_hyd/gwd.shtml](http://esp.cr.usgs.gov/projects/paleo_hyd/gwd.shtml)

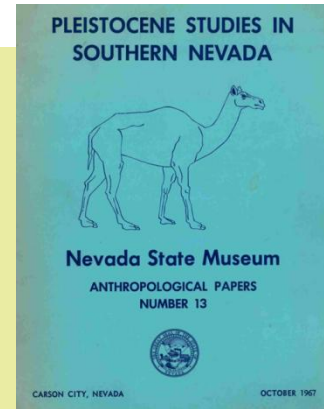
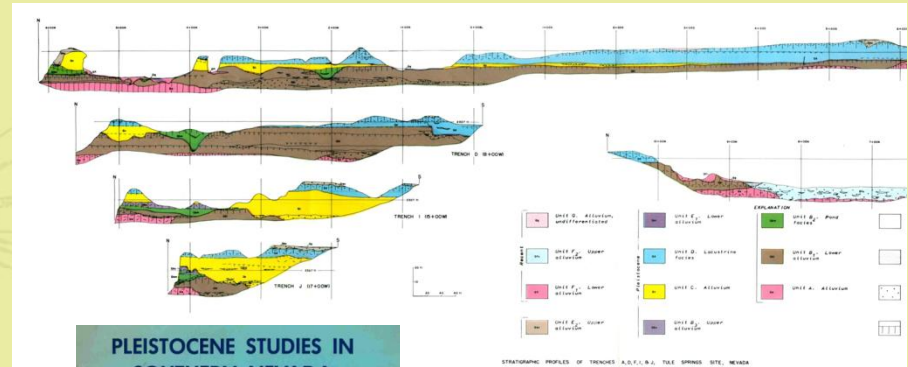
# Climate History and Water



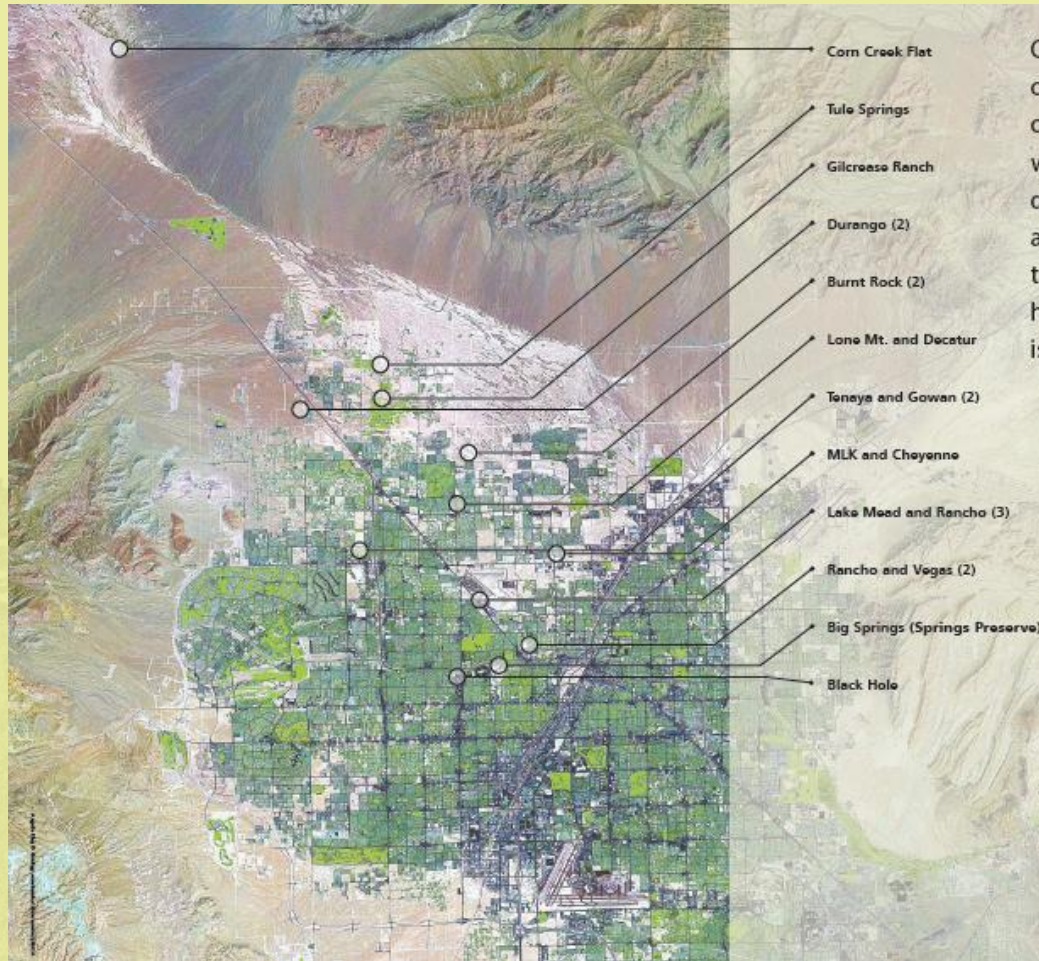
[http://3.bp.blogspot.com/\\_I7Hz4nhE06E/S-GUudIWYAI/AAAAAAAAACY/rLdn\\_x6hE2Y/S660/Mammoths.jpg](http://3.bp.blogspot.com/_I7Hz4nhE06E/S-GUudIWYAI/AAAAAAAAACY/rLdn_x6hE2Y/S660/Mammoths.jpg)

# Tule Springs

- **Mark Harrington**
  - One of the earliest uses of radiocarbon testing
  - Dates of 23,000 BP and 28,000 BP
- **C. Vance Haynes**
  - Big Dig
- **San Bernardino County Museum**
  - 200KY of uninterrupted sequence
  - Closely matches Greenland Ice Core data



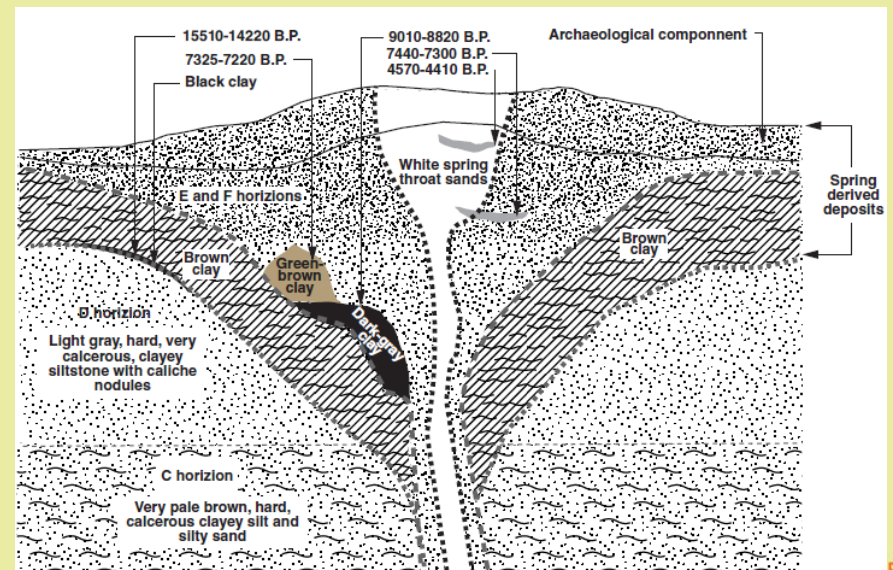
# Spring Mounds in the Las Vegas Valley



- 26 Spring mounds in the NW Valley
- Corn Creek
  - Middle Archaic
- Twin Dunes
  - Middle Archaic
  - Pinto points
- Gilcrease
- Burnt Rock
  - Terminal Archaic
- MLK and Cheyenne
- Big Springs (Springs Preserve)

# Spring Mound

- Spring mounds are formed in arid environments along faults
- Vegetation traps wind-borne sediments. Leads to additional substrate for vegetation and further aeolian deposits
  - Black Mat
- Carbonate rich water can lead to the development of tufa
- Height of mound limited by piezometric surface
- Considered to be a Mid-Holocene (Anthropocene) development



# Gilcrease Spring Mound

- Nevada Friends of Paleontology
- Mostly teeth from
  - Mammoth
  - Bison
  - Camel
  - Horse



- Mammoth teeth radiocarbon dated to 13 to 21 kya

- “Black mat” dates from 9920 +/- 150 to 10,810 +/- 460 BP





# Springs Preserve (26CK949)



- Largest spring mound in the Valley  
- 30 feet above ground surface
- Limited surface testing
- No radiocarbon dates
- Late Archaic period projectile points
- Ephemeral hearths
- Historic midden
- Artifacts concentrated on south side of mound

# Early Agriculture

- **Ancestral Puebloan**
  - Anasazi
- **Horticulture**
- **Agriculture**
  - Small gardens
  - Rock fields
  - Canals/Ditches
- **Arid environment adaptations**



# Springs Preserve Pithouse



- In 2000 and 2002, Springs Preserve archaeologists began test excavations
  - Locus 14A
- Outline of pithouse footprint just a few centimeters below surface
  - Excavations revealed hearth
    - Burned seeds
    - Burned animal bones
    - Burned corn cob pieces
    - Pottery
    - Stone tools
  - 2 $\sigma$  date of AD 680-890. 1240 ± 40 BP

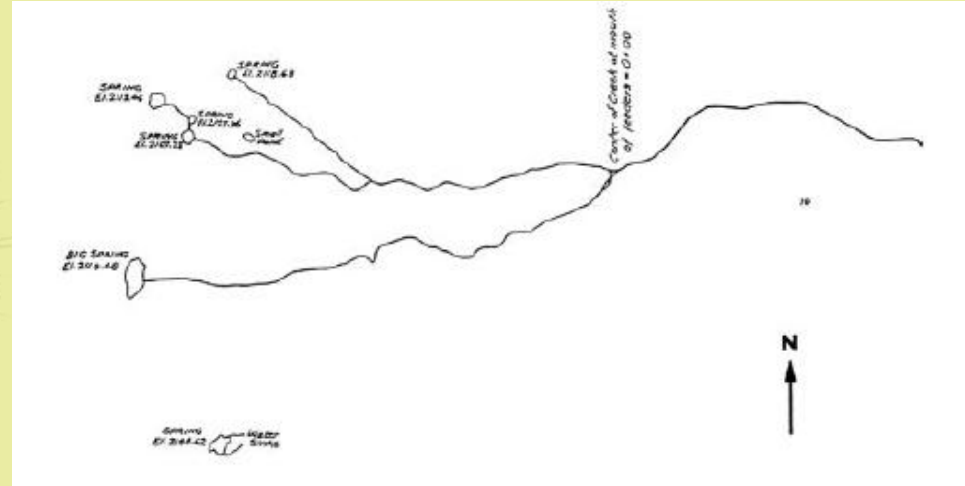
# Springs Preserve Pithouse

- Drought associated with the MWP led to the collapse of Ancestral Puebloan cultures
- There is a hiatus in significant occupation after AD 1200

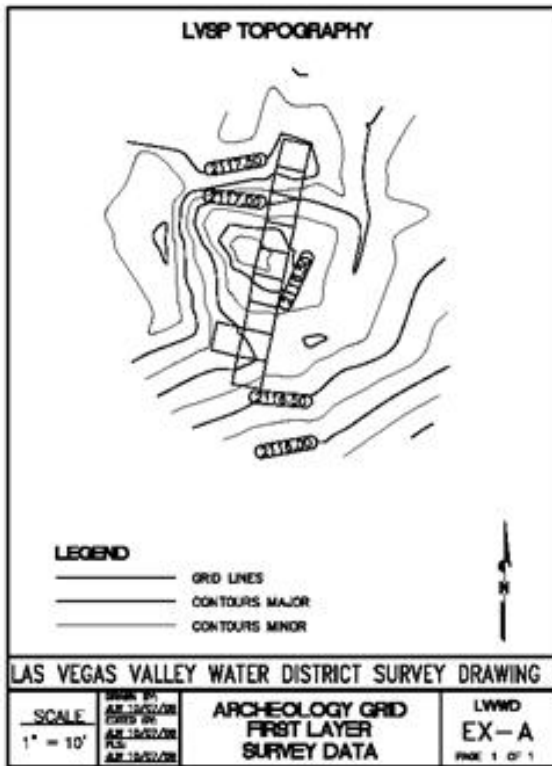


# Historic Period

- Droughts throughout the historic period drove development
- Mormon mission developed Big Springs as a water source
- The use of the Big Springs Complex by the Railroad led to the growth of Las Vegas

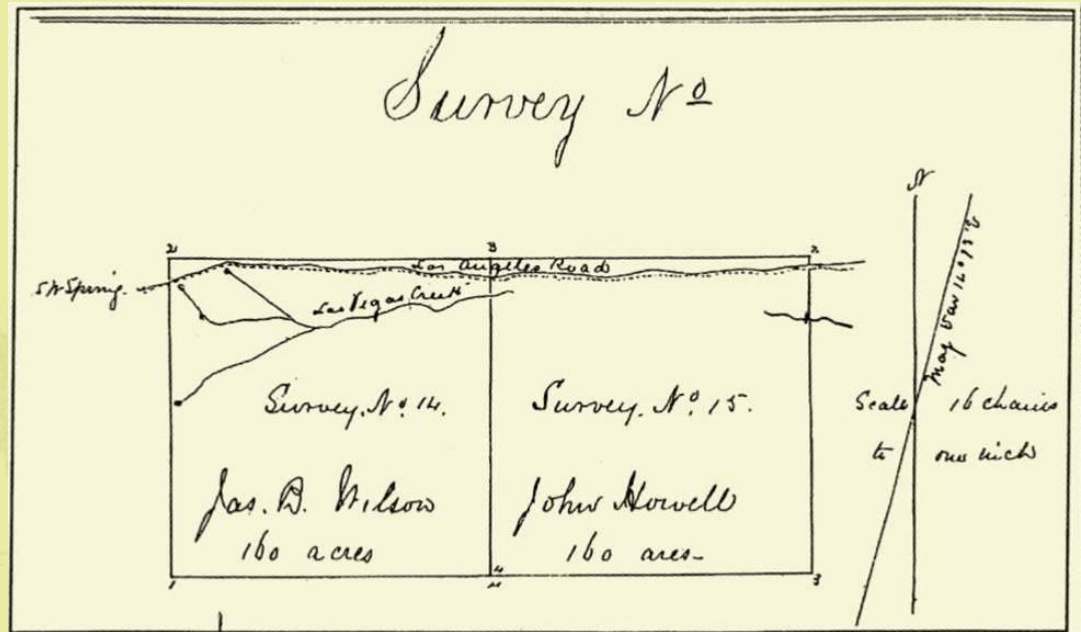


# 1870s-1890s Dugout



# John Howell

- Owner operator of Spring Rancho
- Did not hold water rights to the Springs
  - O.D. Gass



# Water Procurement Facilities

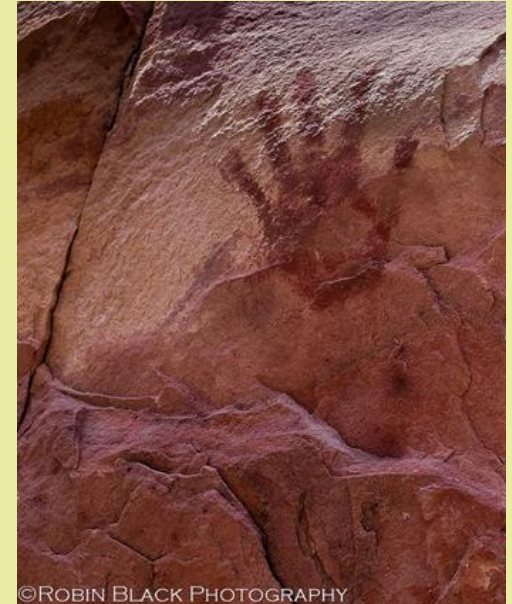
- Four well derricks on site
  - One at the corner of Charleston and Valley View
- Dating from the 1940s
- Well No. 3





# Conclusion

- **The earliest evidence for human activity is centered around water sources**
  - Springs, washes
  - Hunting
  - Agriculture
- **Southern Nevada possesses extensive resources for the investigation of the effect of environment on human culture**
  - The Springs Preserve has cultural and natural resources spanning thousands of years
- **By understanding these processes in the past we can better prepare ourselves for the future**



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